

15. (New) A particle collector for collecting and sampling particles in a fluid which comprises sequentially (i) an inlet (ii) a first collector adapted to collect larger particles and (iii) a second collector adapted to collect smaller particles which second collector comprises a chamber in which there is at least one net or another material containing fibres placed across the chamber and a flow means able to sustain a flow of fluid sequentially through the inlet, first collector and second collector.

16. (New) A particle collector according to claim 15 in which the first collector is adapted to collect particles larger than 0.3 μ m and the second collector is adapted to collect particles smaller than 0.3 μ m.

17. (New) A particle collector according to claim 15 in which there is a humidity control unit incorporated between the inlet and the large particle collector.

18. (New) A particle collector according to claim 17 in which the humidity control unit comprises a heater and a humidity sensor.

19. (New) A particle collector according to claim 15 in which the first collector is selected from a cascade impactor, a plurality of cascade impactors in sequence, a sedimentation unit, a multi stage sedimentation unit, a cyclone and an array of a plurality of cyclones.

20. (New) A particle collector according to claim 15 in which said net contains a plurality of nets with different mesh openings.

21. (New) A particle collector according to claim 20 in which there are a plurality of said nets operating under different flow-rates.

22. (New) A particle collector according to claim 20 in which two or more nets are assembled in parallel or sequentially.

23. (New) A particle collector according to claim 20 in which one or several nets are employed to collect large particles.

24. (New) A particle collector according to claim 15 in which there is a saturator located upstream of the first collector.

25. (New) A particle collector according to claim 15 in which the fluid is dragged through the collector by a higher pressure generating means.

26. (New) A particle collector according to claim 15 in which there are is an optical particle counter, a dust monitor, nephelometer, aethelometer or a condensation particle counter for obtaining particle size distributions without chemical or gravimetric analysis.

27. (New) A particle collector according to claim 15 in combination with an ionisation unit and a mobility selective element.

28. (New) A particle collector according to claim 27 in which there an aerosol neutroliser placed between the mobility selective element and the net sampler.

29. (New) A method for selective deposition of suspended particles from a fluid which method comprises (i) passing the fluid sequentially over a first collector adapted to collect larger particles and (ii) over a second collector adapted to collect smaller particles, which second collector comprises a

chamber in which there is at least one net or another material containing fibres placed across the chamber.

30. (New) A method for selective deposition of suspended particles according to claim 29 in which the first collector collects particles larger than 0.3 μ m and the second collector collects particles smaller than 0.3 μ m.

31. (New) A method for selective deposition of suspended particles according to claim 29 in which the first collector is selected from a cascade impactor, a plurality of cascade impactors in sequence, a sedimentation unit, a multi stage sedimentation unit, a cyclone and an array of a plurality of cyclones.

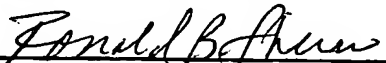
32. (New) A particle collector according to claim 29 in which the net sampler contains a plurality of nets with different mesh openings.

33. (New) A method according to claim 29 in which there is a saturator located upstream of the first collector.

34. (New) A method according to claim 33 in which the larger particles are ionised and deposited in an electric field.

35. (New) A method according to claim 34 in which the charge on the particles is reduced by a neutralisation unit placed between the first collector and the second collector.

Respectfully submitted,


Ronald B. Sherer
Counsel for Applicant
Registration No. 19,977

Bartlett & Sherer
103 South Shaffer Drive
New Freedom, PA 17349
Telephone: (717)227-1197
Fax: (717)227-9008